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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/731,805	12/08/2003	Christoph Bussler	021756-002600US	5730
51206 7590 07/16/2007 TOWNSEND AND TOWNSEND AND CREW LLP TWO EMBARCADERO CENTER 8TH FLOOR SAN FRANCISCO, CA 94111-3834			EXAMINER GORDON, CARLENE M	
			ART UNIT 2168	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/731,805	Applicant(s) BUSSLER ET AL.	
	Examiner Carlene Gordon	Art Unit 2168	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Notice to Applicant(s)

1. This application has been examined. Claims 1-26 are pending.

Claim Objections

2. Claims 2, 11, 18, and 20 objected to because of the following informalities:
The word "meta" should be removed. Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 3, 5, 6, 14, 15, 17, 19, and 25-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Drake et al. (US Pub. No. 2003/0070142 A1), hereinafter *Drake*, in view of Rasmussen (USPN 7,185,016 B1), hereinafter *Rasmussen*.

a. **Per claim 1, Drake discloses a computer-implemented method of validating data in an object model (See Title teaches validation of data model object content. Also see paragraph [0024].), comprising:**

identifying a first subject of validation wherein the first subject is one of an object, an attribute, an association and a collection of objects **(Fig. 3 illustrates identifying a first subject of validation as social security number where the name attribute identifies "social_security_number". Further see paragraphs [0024-0025 and 0029]);**

determining a context of data validation based on the first subject, the context including one of a) the first subject, and b) the first subject and one or more additional subjects **(See Fig. 3 and see paragraphs [0024-0025] wherein designing rules specifically for social security numbers is determining a context of data validation based on the first subject.);**

determining one or more validation rules for each subject in the context **(See Fig. 3 and paragraphs [0011, 0020, and 0024-0025] where determining rules for the subject in the context is taught.); and**

applying the determined validation rules to each subject in the context **(See Figs. 3 and 4, also paragraphs [0011, 0024-0025, and 0031] teaches applying validation rules.);**

Drake does not explicitly disclose the data is metadata in an object model stored in a database. However, *Ramussen* discloses metadata models and that the metadata

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is stored in data sources such as databases (**See col. 12 lines 53-55, and col. 2 lines 26-27**).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art of data object models to allow users of the system of *Ramussen* including a database storing metadata to run the validation application of Drake (**See col. 12 lines 53-55, and col. 2 lines 26-27**). The motivation would have been to provide multiple users access to the validation application of Drake (**See *Ramussen* col. 3 lines 37-41**).

b. **Per claim 3**, *Drake* discloses the method of claim 1, wherein identifying includes receiving an indication from a user interface module, said indication identifying the first subject (**Fig. 1 illustrates graphical user interface interaction. See paragraphs [0031]**).

c. **Per claim 5**, *Drake* discloses the method of claim 1, wherein identifying includes receiving an update indication identifying the first subject in response to a modification of the first subject (**See paragraph [0032] teaches update indication.**).

d. **Per claim 6**, *Drake* discloses the method of claim 1, wherein each of the one or more validation rules is one of a correctness type rule and a completeness type rule (**See Fig. 3 and paragraphs [0004 and 0025]**).

e. **Per claim 14**, *Drake* discloses the method of claim 1, wherein determining one or more validation rules includes identifying rules in rule files based on the subject type of each subject to be validated (**See rule file in Fig. 3**).

f. **Per claim 15**, *Drake* discloses the method of claim 14, wherein each rule file is a Java file (**See paragraph [0035] where software packages is JavaBeans implying Java files**).

g. **Per claim 17**, *Drake* discloses a data validation system for validating an object model, comprising:

means for identifying a first subject of validation, wherein the first subject type is one of an object, an attribute, an association and a collection of objects (**Fig. 3 illustrates identifying a first subject of validation as social security number where the name attribute identifies "social_security_number". Further see paragraphs [0024-0025 and 0029]**);

means for determining a context of data validation based on the first subject, the context including one of a) the first subject, and b) the first subject and one or more additional subjects (**See Fig. 3 and see paragraphs [0024-0025] wherein designing rules specifically for social security numbers is determining a context of data validation based on the first subject.**);

means for determining one or more validation rules for each subject in the context (**See Fig. 3 and paragraphs [0011, 0020, and 0024-0025] where determining rules for the subject in the context is taught.**); and

mean for applying the determined validation rules to each subject in the context (**See Figs. 3 and 4, also paragraphs [0011, 0024-0025, and 0031] teaches applying validation rules.**).

Drake does not explicitly disclose the data is metadata nor a database that stores the objects and metadata of the object model. However, *Ramussen* discloses metadata models and that the metadata is stored in data sources such as databases (**See col. 12 lines 53-55, and col. 2 lines 26-27**).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art of data object models to allow users of the system of *Ramussen* including a database storing metadata to run the validation application of *Drake* (**See col. 12 lines 53-55, and col. 2 lines 26-27**). The motivation would have been to provide multiple users access to the validation application of *Drake* (**See *Ramussen* col. 3 lines 37-41**).

h. **Per claim 19**, *Drake* discloses a method of validating data in an object model, the method comprising:

receiving user defined rules, each rule defining a validation rule on a data object (**See Fig. 4 illustrates and paragraph 0031 teaches custom validation is user validation. See paragraphs [0011 and 0020] teaches receiving user defined rules.**

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See Title and paragraph [0024 teaches validation rule on data model object content.], each rule being one of a completeness type rule and a correctness type rule (Fig. 3 illustrates and paragraphs [0005 and 0025] disclose completeness and correctness type rules.);

storing the validation rules **(See Fig. 1 illustrates stored validation rules in data model.);**

identifying a first subject of metadata validation, wherein the first subject has a subject type selected from the group consisting of is one of an attribute, an association, an object and a collection of objects **(Fig. 3 illustrates identifying a first subject of validation as social security number where the name attribute identifies “social_security_number”. Further see paragraphs [0024-0025 and 0028-0029].);**

determining a context of validation based on the first subject, wherein the context includes the first subject and none, one or more additional subjects **(See Fig. 3 and see paragraphs [0024-0025] wherein designing rules specifically for social security numbers is determining a context of data validation based on the first subject.);**

determining one or more validation rules for each subject in the context based on the subject type of each subject **(See Fig. 3 and paragraphs [0011, 0020, and 0024-0025] where determining rules for the subject in the context is taught.); and**

applying the validation rules to each of the determined subjects **(See Figs. 3 and 4, also paragraphs [0011, 0024-0025, and 0031] teaches applying validation rules.);**

Drake does not explicitly disclose the data is metadata nor a database that stores the objects and metadata of the object model. However, *Ramussen* discloses metadata models and that the metadata is stored in data sources such as databases (**See col. 12 lines 53-55, and col. 2 lines 26-27**).

Drake does not explicitly disclose storing the validation rules to the database. However, *Drake* teaches storing validation rules in the data model (**See Fig. 1-2 and paragraph [0019]**), while *Ramussen* discloses storing the data model in a database (**See col. 12 lines 53-55, and col. 2 lines 26-27**).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art of data object models to allow users of the system of *Ramussen* including a database storing metadata to run the validation application of *Drake* (**See col. 12 lines 53-55, and col. 2 lines 26-27**). The motivation would have been to provide multiple users access to the validation application of *Drake* (**See *Ramussen* col. 3 lines 37-41**).

i. **Per claim(s) 25**, rejection of claims 14 and 19 are fully incorporated. Claim 25 is rejected under the same rationale as claim 14 due to the similarity in scope in the limitations of the claims. (**See respective claims above.**)

j. **Per claim(s) 26**, rejection of claims 15, 19 are fully incorporated. Claim 26 is rejected under the same rationale as claim 15 and 19 due to the similarity in scope in the limitations of the claims. (**See respective claims above.**)

4. Claims 2, 4, 18, and 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Drake et al. (US Pub. No. 2003/0070142 A1), hereinafter *Drake*, in view of Rasmussen (USPN 7,185,016 B1), hereinafter *Rasmussen*, and in further view of Mikhailov et al. (USPN 6,968,500 B2), hereinafter *Mikhailov*.

a. **Per claim 2**, the rejection of claim 1 is incorporated. Furthermore, *Drake* as modified by *Rasmussen* does not explicitly disclose the method of claim 1, wherein each subject is a meta metadata object selected from the group consisting of a MetaAttribute, a MetaAssociation, a MetaAssociationEnd, a MetaClass and a MetaCollection. However, *Mikhailov* discloses a group of types of metadata associated **(See col. 5 lines 39-54, col. 14 lines 62-64, and col. 1 lines 1-31.)**

At the time of the invention, it would have been obvious to a person of ordinary skill in the art of data object models to allow users of the application and system of *Drake* and *Rasmussen* to utilize the group of types of metadata associated by *Mikhailov* **(See col. 5 lines 39-54, col. 14 lines 62-64, and col. 1 lines 1-31.)**. The motivation would have been to provide multiple users access to the validation application of *Drake* **(See *Rasmussen* col. 3 lines 37-41)** with the convenience of structured online communication as taught by *Mikhailov* **(See col. 1 lines 27-31)**.

b. **Per claim 4**, the rejection of claim 1 is incorporated. Furthermore, *Drake* and *Rasmussen* do not explicitly disclose the method of claim 1, wherein identifying includes receiving an indication from a configuration management module, said

indication identifying the first subject. However, *Mikhailov* discloses automation forms handling application service (**See col. 5 lines 19-38.**).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art of data object models to allow users of the application and system of *Drake* and *Rasmussen* to utilize the group of types of metadata associated by *Mikhailov* (**See col. 5 lines 39-54, col. 14 lines 62-64, and col. 1 lines 1-31.**). The motivation would have been to provide multiple users access to the validation application of *Drake* (**See *Rasmussen* col. 3 lines 37-41**) with the convenience of structured online communication as taught by *Mikhailov* (**See col. 1 lines 27-31**).

c. **Per claim(s) 18 and 20**, rejection of claims 2, 17, and 19 are fully incorporated. Claims 18 and 20 are rejected under the same rationale as claim 2 due to the similarity in scope in the limitations of the claims. (**See respective claims above.**).

d. **Per claim(s) 21**, rejection of claims 3, 4, and 19 are fully incorporated. Claim 21 is rejected under the same rationale as claims 3 and 4 due to the similarity in scope in the limitations of the claims. (**See respective claims above.**).

5. Claims 7-13, 16, and 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Drake et al.* (US Pub. No. 2003/0070142 A1), hereinafter *Drake*, in view of *Rasmussen* (USPN 7,185,016 B1), hereinafter *Rasmussen*, and in further view of *Lindberg et al.* (US Pub. No. 2003/0028540 A1), hereinafter *Lindberg*.

a. **Per claim 7**, the rejection of claim 1 is incorporated. Furthermore, *Drake* as modified by *Rasmussen* does not explicitly disclose the method of claim 1, wherein the first subject is a root object for a collection of associated objects. However, *Lindberg* discloses a first subject as a root object for a collection of associated objects **(See Fig. 2 shows “Person” as the root. Also see paragraph [0016])**.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art of data object models to allow users of the application and system of *Drake* and *Rasmussen* where social security number is the subject to utilize the method of associating objects as taught by *Lindberg* **(See Fig. 2.)**, whereby the person could be associated with other objects by its social security number attribute. The motivation would have been to provide a more useful way of organizing and labeling the data without changing the information model layer **(Lindberg paragraph [0016])** and thereby allowing for easily and efficiently sharing the data and data validation among multiple presentations **(Drake paragraph [0022])**.

b. **Per claims 8**, the rejection of claim 7 is incorporated. *Drake*, *Rasmussen*, and *Lindberg* discloses wherein the collection of objects is a deployable collection including all objects transitively associated with the root object **(See paragraph [0021] of Drake.)** and **(See Fig. 2 of Lindberg)**.

c. **Per claim 9**, the rejection of claim 7 is incorporated. *Drake in view of Rasmussen* and *Lindberg* discloses wherein the collection of objects is an aggregated

collection including the root object and all of its strongly aggregated child objects recursively (**See Fig. 2 of Lindberg**).

d. **Per claim 10**, the rejection of claims 1 and 7 are incorporated, wherein determining a context includes:

a) traversing all associations with a root object to identify target objects (**See Fig. 2 of Lindberg**);

b) repeating a) for each target object, with each target object as the root object (**See Fig. 2 of Lindberg**); and

c) generating a list of all target objects, wherein said list of objects represents a transitive closure based on the root object (**See paragraph [0021] of Drake and See Fig. 2 of Lindberg**).

e. **Per claim 11**, *Drake in view of Rasmussen and Lindberg* discloses the method of claim 10, wherein determining a context is implemented using queries written in the Java language or a meta-language (METALANG) or both (**See Java taught in paragraph [0035] of Drake**).

f. **Per claim 12**, *Drake in view of Rasmussen and Lindberg* discloses the method of claim 10, wherein the list of objects forms the context for validation (**See Fig. 2 of Lindberg and paragraph [0016]**).

g. **Per claims 13 and 22**, rejection of claims 7, 10, and 19 are fully incorporated. Claims 13 and 22 are rejected under the same rationale as claim 7 due to the similarity in scope in the limitations of the claims. **(See respective claims above.)**

h. **Per claim 16**, the rejection of claims 1 and 7 are incorporated. Further, *Drake in view of Rasmussen and Lindberg* discloses the method of claim 1, wherein each subject in the context is one of an instance of an object, an instance of an object containing an attribute, an instance of an object having an association and an instance of root object of a deployable unit of a collection of objects **(See rejection of claims 1 and 7 above)**.

i. **Per claim 23**, rejection of claims 8, 9, and 22 are fully incorporated. Claim 23 is rejected under the same rationale as claims 8 and 9 due to the similarity in scope in the limitations of the claims. **(See respective claims above.)**

j. **Per claim 24**, rejection of claims 10 and 22 are fully incorporated. Claim 24 is rejected under the same rationale as claims 10 due to the similarity in scope in the limitations of the claims. **(See respective claims above.)**

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carlene Gordon whose telephone number is (571) 272-1951. The examiner can normally be reached on 8:30 AM - 5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tim Vo can be reached on (571) 272-3642. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

7. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Carlene Gordon
Patent Examiner
Art Unit 2168



HOSAIN ALAM
SUPERVISORY PATENT EXAMINER